TISSUE SPECIFIC EXPRESSION OF RAT NEUTRAL ENDOPEPTIDASE mRNAs. C. Li, R. M. Booze and L. B. Hersh. University of Kentucky, College of Medicine, Lexington, KY 40536-0084.

Neutral endopeptidase (NEP), a cell surface endopeptidase, regulates the action of a variety of physiologically active peptides both in the CNS as well as peripherally. Three rat and four human NEP mRNAs derived from three distinct exons have been identified. Each of these contains a unique 5' untranslated sequence, but a common coding sequence. The distribution of the three rat mRNA transcripts, referred to as type 1, type 2a, and type 3 were analyzed in various tissues. The type 2b transcript was the major species in kidney. In lung and testis both type 1 and type 2b transcripts were expressed in approximately equal amounts, while in brain and spinal cord the type 1 mRNA was the major transcript. A more detailed analysis of the expression of these transcripts was conducted in rat brain, where regional as well as cell specific expression of the NEP transcripts was observed. The type 1 and type 2b transcripts were the most abundant and appeared to be localized primarily to neurons. In contrast the type 3 transcript was localized to myelinated pathways. These finding provide a mechanism for differential transcriptional regulation of NEP expression in different brain regions.

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